



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,738	09/26/2003	Dae-Lim Park	041993-5231	6760
9629	7590	10/04/2005	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004				DUONG, THOI V
ART UNIT		PAPER NUMBER		
		2871		

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/670,738	PARK ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Thoi V. Duong	2871

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

- 1) Responsive to communication(s) filed on 14 July 2005.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

- 4) Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-17 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____.<br>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)<br>6) <input type="checkbox"/> Other: _____. |
|--|--|

## **DETAILED ACTION**

1. This office action is in response to the Amendment filed July 14, 2005.

Accordingly, claims 1, 4, 11 and 16 were amended, and new claim 17 was added. Currently, claims 1-17 are pending in this application.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 4, 11 and 16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-6, 8-13 and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoo et al. (Yoo, USPN 6,642,972 B2).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Re claim 1, as shown in Figs. 6, 8C and 8D, Yoo discloses a data pad region of a liquid crystal display panel, comprising:

a plurality of data lines 115 vertically arranged at specified intervals;

a plurality of data pads (Fig. 8D) respectively connected to the data lines 115;

at least one first side contact 150 with a first area formed in each data pad, the data line 115 being side-contacted with a conductive material 143 in the first side contact 150 (Figs. 8C and 8D), and

at least one second side contact 139 with a second area formed in each data pad, the data line 115 being side-contacted with the conductive material 143 in the second side contact 139 (Fig. 8D),

wherein the first side contact 150 is positioned in a central portion of the data pad and a first contact area contacted with the conductive material 143 is larger than a second area contacted with the conductive material 143 (Fig. 8D).

Re claim 2, the first side contact 150 is positioned in a central portion of the data pad.

Re claim 3, at least two second side contacts are respectively formed at one end of each data pad and at the other end of each data pad (Fig. 8D).

Re claim 4, as shown in Figs. 6-8, Yoo discloses a method for fabricating a data pad region crystal display panel, comprising:

forming a gate insulating layer 131, data lines 115 and a passivation film 137 in a data pad forming region of a substrate 122,

forming at least one first side contact hole 150 with a first area at the central region of the data pad forming region and forming at least two second side contact holes 139 and 149 with a second area respectively at both edges of the data pad forming region; and

forming at least one first side contact 150 electrically connecting one of the data lines 115 to a conductive layer 143 at the first side contact hole and forming at least one second side contact 139 electrically contacting the data line 115 to the conductive layer 143 at the second side contact hole by patterning a conductive material (col. 11, lines 26-30),

wherein the first side contact 150 is positioned in a central portion of the data pad and a first contact area contacted with the conductive material 143 is larger than a second contact area 139 contacted with the conductive material 143.

Re claim 9, the data line 115(128) is etched by dry-etching (col. 9, lines 63-66).

Re claim 10, the gate insulating layer 131 is exposed at the bottom surfaces of the first side contact hole 150 and the second side contact hole 139 by dry-etching of the passivation film (col. 10, line 47 through col. 11, line 20).

Re claim 11, as shown in Figs. 6-8, Yoo discloses a data pad region of a liquid crystal display panel, comprising:

a substrate 122,

a gate insulating layer 131, data lines 115 and a passivation film 137 in a data pad forming region of the substrate 122, wherein the passivation film 137 in the data pad forming region including at least one first side contact hole 150 with a first area and at least one second side contact hole 139 with a second area, wherein the first area is larger than the second areas (Fig. 8C), the first side contact and the second contact being covered with conductive material 143; and

at least one first side contact electrically connecting one of the data lines 115 to a conductive layer 143 at the first side contact hole 150 and at least one second side contact electrically connecting the data line 115 to the conductive layer 143 at the second side contact hole 139 (Fig. 8C),

wherein the first side contact hole 150 is positioned in a central portion of the data pad and at least two second side contact holes 139, 149 are respectively formed at one end of each data pad and at the other end of each data pad, a first contact area contacted with the conductive material 143 is larger than a second contact area contacted with the conductive material 143 (Figs. 8C and 8D).

Re claims 5, 6, 12 and 13, the passivation film 137 is made of an organic material such as BCB (benzocyclobutene) (col. 10, lines 43-46).

Re claims 8 and 15, the data line 115(128) is made of Mo (col. 9, lines 63-66).

Re claim 16, as shown in Figs. 6-8, Yoo discloses a liquid crystal display panel, comprising:

a substrate 122 having an image display region with unit pixels arranged in a matrix and a data pad region at the periphery of the image display region (Fig. 6), wherein the data pad region includes:

a plurality of data lines 115 vertically arranged at specified intervals;

a plurality of data pads (Fig. 8D) respectively connected to the data lines 115;

at least one first side contact 150 with a first area formed in each data pad, the data line being side-contacted with a conductive material 143 in the first side contact (Fig. 8D), and

at least one second side contact 139 with a second area formed in each data pad, wherein the first area is larger than the second area, the data line being side-contacted with the conductive material in the second side contact (Fig. 8D),

wherein the first side contact 150 is positioned in a central portion of the data pad and a first contact area contacted with the conductive material 143 is larger than a second contact area contacted with the conductive material 143 (Fig. 8D).

Re claim 17, the conductive material 143 includes a pixel electrode 117 at unit pixel (col. 11, lines 26-30).

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2871

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being obvious over Yoo et al. (Yoo, USPN 6,642,972 B2) in view of Kim et al. (Kim, USPN 6,100,954).

The applied reference, USPN 6,642,972, has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Yoo discloses a liquid crystal display panel that is basically the same as that recited in claims 7 and 14 except for a passivation film formed as a triple deposition structure of SiNx film/BCB (benzocyclobutene) film/SiNx film.

As shown in Fig. 16B, Kim discloses a passivation film comprising a first inorganic film 179, a second organic film 159, and a third inorganic film 181, wherein an

organic material includes BCB and an inorganic material includes SiNx (col. 19, lines 43-50 and col. 20, lines 16-25).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display panel of Yoo with the teaching of Kim by forming a passivation film as a triple deposition structure of SiNx film/BCB (benzocyclobutene) film/SiNx film so as to improve an adhesion property and to obtain a superior quality and performance for the display (col. 21, lines 40-44 and col. 22, lines 13-32).

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2871

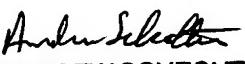
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong



10/02/2005



ANDREW SCHECHTER  
PRIMARY EXAMINER